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ABSTRACT

A study investigated 35 third grade students' requests and responses in their reading groups to determine (1) whether peer instructional groups designed to differ according to reading ability do, in fact, differ on measures of reading achievement; (2) how the processes of interaction, particularly requests and responses, differ in these groups; (3) whether individual differences exist in both reading achievement and the use of requests and responses, and whether they remain stable over a school year; and (4) whether certain aspects of requests predict if appropriate responses will be obtained. The subjects were administered standardized reading achievement tests and tests of language knowledge. Six samples of peer interaction were videotaped in seven homogeneous reading groups in the fall and spring of one school year. The results showed that the ability groups differed in reading achievement, and that these differences remained stable throughout the year. In addition, the groups were found to differ in their requests and responses, and these differences also remained stable over the year. Finally, certain aspects of requests did predict obtaining appropriate responses. It was concluded that the quality of interaction in peer-directed reading groups of different ability levels varies through the children's use of language. (FL)

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Technical Report No. 584

PEERS' REQUESTS AND RESPONSES IN THIRD-GRADE READING GROUPS

by

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Report from the Program on
Student Diversity and Classroom Processes:
Interaction and Organization

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Abstract

This study investigates 35 third-grade students' requests and responses in their reading groups. Standarized reading achievement tests, tests of language knowledge were administered, and six samples of peer interaction were video-taped in seven homogeneous reading groups in the fall and spring of one academic year. The results showed that (a) the ability groups differed in reading achievement, and these differences remained stable throughout the year; (b) the groups differed in their requests and responses, and these differences also reamined stable; (c) aspects of requests predicted obtaining appropriate responses, which confirmed a model of the effective speaker. Implications for opportunities to develop skills in peer, instructional groups are discussed.

Introduction

The present study was conducted to investigate third-grade children's use of requests and responses in their reading groups. Grouping students for instruction is a common practice in elementary school (Deutsch, 1962; Johnson & Johnson, 1975), and homogeneous grouping with respect to ability is ubiquitous in some cases (Esposito, 1973; Wilson & Schmits, 1978). There has been some experimental and observational research on children's groups, yet research on the processes of interaction which may support and maintain different outcomes, such as achievement, has been a neglected topic, particularly in instructional groups in the naturalistic setting of the classroom. There has been some research on teacher-student interactional processes in reading ability groups (Eder, 1982; Weinstein, 1976) but very little on peer-directed, instructional interaction (Webb, 1980).

No previous research examines students' use of requests and responses in peer-directed reading groups. Making requests and receiving appropriate responses is a crucial interactional skill for teaching and learning in small groups. Requests are used by children to exchange information and regulate their interpersonal behavior. Requests are very prevalent in classroom situations, accounting for two-thirds of the teachers' speech to students (Mehan, 1978; Sinclair & Coulthard, 1975). There are few data available on the frequency of requests in student-student interaction, although the studies of Cazden (1976) and Mishler (1975) suggest that the requests are also common in these interactional contexts.

In a study of the communicative interactions of children in different reading ablity groups, Eder (1982) reports that students in low ability groups were more inattentive, and required more management by the teacher during reading. Teachers' management of students was found to be disruptive of the students' turns at reading, which often resulted in low ability students being deprived of the opportunities to decode words used in the assignments. Eder notes that the students in the low ability groups seemed to be at a disadvantage in comparison with students in the high ability groups for two reasons: (1) initially, they may not have the skills which are required for the reading tasks; (2) they are more likely to have difficulty learning when they are assigned to groups in which social interactional contexts are less conducive to learning. The learning environments of low ability groups are determined directly by other students' behavior as well as indirectly mediated through the effects of other students on the teachers' behavior.

Webb (1980) has noted that little attention has been given to the effects on learning of interaction with other students in a group setting on In her study of group processes comparing mathematics learning of 11th-grade students in small groups she found that better performance was associated with active verbal participation in the groups. In the mixed ability groups, high ability, and low ability groups, students interacted with one another and the high ability children helped the low ability children. Students in the medium ability groups were ignored unless members aggressively asked for explanations or took part in explaining. Webb's research suggests that descriptions of social interactional processes in groups may contribute to our understanding of the function that these processes serve to

maintain and/or to enhance the differential achievement exhibited by the students in these groups.

Previous research and linguistic theory suggest specific characteristics of requests which students would use in their group interaction in third-grade. Labov & Fanshel (1977) believe that in order for speakers to obtain an appropriate response to requests, they should be "sincere," that is, they should specify the action, purpose, and need for the request, as well as the ability and obligation of the listener to give an appropriate response. We would expect that most of the third-grade students' requests would be on-task (Smith, 1960), and that they would be designated to a specific listener, since there is a high degree of dyadic interaction in these groups (Smith, 1973). If the listener does not comply after an initial request is made, we expect that the speaker will "try again". We expect direct forms to be used often, since research findings indicate that preschool and early school-age children prefer to use direct forms of requests, such as the imperative and either the wh- or yes/no question form in producing as request, as opposed to using indirect forms, such as need-statements or declaratives (Ervin-Tripp, 1976; Read & Cherry, 1978). Direct forms differ from indirect forms in the degree of inference that is required for the listener to undestand what the speaker wants.

In the present study, third-grade students were observed in reading groups throughout a school year. The students were assigned to reading groups the first few weeks of school, and the membership within these groups remained constant during the year. Students reading achievement was assessed with standarized tests at the beginning of the school year. Audio and video recordings of group interaction were collected and transcribed, so that students' requests and responses

could be identified and described. The following questions were addressed: (1) Do peer instructional groups which have been selected to differ according to reading ability, in fact, differ on measures of reading achievement? (2) How do the processes of interaction, particularly the use of requests and responses, differ in these groups? (3) Are there individual differences in both reading achievement and the use of requests and responses, and do they remain stable over the school year? (4) Do aspects of requests predict whether appropriate responses will be obtained?

Methods

Subjects

The subjects were 35 third-grade students who comprised seven reading groups in the third grade of one school. According to the teachers, the students' reading skills at the beginning of the school year differed in the groups, even though no formal assessment of these skills had been given. All of the students were Caucasian, native speakers of English, and from middle-class families, and they ranged in age from 7 to 8 years; they attended the school for the academic year. There were no students who were diagnosed to have learning disabilities or any language problems. There were 16 males and 19 females. Parents' permission was obtained for the students' participation in the study.

Data Collection

Recording the reading event. Reading activities were the units of sample for data collection. Reading activity typically began at 9:00 and lasted until approximately 9:40 in each of the classrooms; teachers announced both the beginning and end of the activity. Students chose their seats at the reading tables designated by the teacher. The teachers often provided instructions for the reading groups when the students were in the whole-group formation; however, some of the teachers provided instructions after the students had formed their small reading groups. In both situations, the completion of the instructions marked the beginning of the reading event.

The reading activities were audio- and video- taped in the classrooms for each of the reading groups. Data were collected every day for a period of 3-1/2 weeks; the days were regarded as typical by the classroom teachers. Each reading group was taped during one period defined by the teacher as the reading group time.

Two portable video cameras (Sony Portapak) were used to record the reading activity of each group; cameras were visible to the students and were postitioned across from one another so that nearly full-face views of all of the students would be recorded on one or the other camera. Two microphones (Electra Voice 635A) were placed in the middle of each group's table.

Prior to, during and following the recording, two observers prepared descriptions of the ongoing events in the group, to supplement the recordings with relevant contextual information which may not have

been included on the tapes. There were four adults in addition to the students, teachers, and school staff in the classrooms. The subjects were familiar with the presence of several adults in the classroom in addition to the teachers, including parents, aids, among others. According to the principal, videotaping of both teachers and students was common in these classrooms.

Data were collected in the fall, for 3-1/2 weeks at the end of October and beginning of November and then again in the spring for 3-1/2 weeks in April. There were three separate tapings for each reading group in each season for a total of six samples for each group; there were approximately 42 hours of recordings.

The reading groups were determined by the teachers prior to the study, and there were from three to six subjects per group.

All of the groups were similar in their organization and structure, such as the way that activities were initiated, maintained, and terminated. Initially, assignments and instructions were presented by the teachers; the teacher then left the reading group and the students functioned as a group in order to accomplish the individual tasks. In all cases, the task was the same for all of the members of the group for that particular reading activity (e.g., a worksheet or a workbook page). The final phase of the reading group included another teacher- directed period that occurred shortly before the groups disintegrated, where the teacher often provided evaluation.

All of the groups were seated at small tables within the classrooms that also contained other groups of students. Background noise and general environmental characteristics appeared to be comparable among the groups. And all of the groups performed one or

more activities requiring a written response, such as completing worksheets, drawing a picture of events that the students had read about, or printing sentences from the stories that they had read.

Individual assessment. Information concerning each student's language ability and reading achievement was collected by individual testing in the fall and in the spring; assessments took approximately 45 minutes. A speech sample consisting of approximately 50 spontaneous utterances of each child was obtained during an informal conversation in which an experimenter posed open-ended questions regarding topics presumed to be of interest to the children, such as television, and friends. Grammatical complexity was assessed by segmenting each child's transcript into a series of communication units (an independent clause plus all of its communication units), then computing the average number of words per unit using a procedure based upon Loban (1976). Unlike Loban, we did not score responses limited to yes/no replies, or "okay" as communication units because the conversational framework of our speech sample did not insure narrative responses to the extent of Loban's elicited procedures. In addition, 40 rather than 30 communication units were used in order to increase the reliability of the scores.

Children's grammatical comprehension was assessed by their performance on the Miller-Yoder Test of Grammatical Comprehension (1975). This test, which consists of 84 items, requires the child to point toone of four pictures, that depicts the meaning of each utterance read by the experimenter. Various syntactic structures are tested, e.g., prepositions, subject and object pronouns, possessives, and tenses.

Reading ability was assessed in the fall and spring by the Metropolitan Reading Achievement Test (1976) as administered by the classroom teachers.

Transcription of tapes. The videotapes collected for each group were transcribed by a member of the research team who had been present during data collection. The relatively long segment of all-student interaction for each group was chosen for detailed analysis in this study (10- 30 minutes). During this segment, the teacher was not present in the group; typically, she was in the classroom assisting other students. Transcripts were rechecked against both of the tapes. Percentage agreement on these data had been established for word and utterance boundaries, and they exceeded 80%. Following transcription, the videotapes were viewed for relevant nonverbal and spatial information which then was included on the transcripts.

Two transcripts, one coded previously by the same observer, the second by an associate, were randomly selected and recoded by the second author. Interobserver agreement, represented as the proportion of coding agreements divided by the number of agreements plus disagreements, was then computed with respect to each of the variables included in this study. Agreement ranged from 88% to 100%.

Coding. The samples of data selected for analysis were coded according to the following categories.

Utterance: A string of words communicating one idea.

Requests for action or directives: Attempts by speakers to obtain action performed by listeners.

Requests for information or questions: Attempts by speakers to obtain information from listeners.

All requests were coded into the following categories.

On-task: A request related to the academic content and/or procedures and materials of the assignment.

Designated-listener: A request directed to a specific listener.

Sincere: A request meeting criteria for sincerity (Labov & Fanshel, 1977).

Revision: The re-initiation of a request made previously by the same speaker to the same listener within three turns of the initial request.

Direct-form: Requests for action, the imperative; requests for information, the wh-, yes/no, or tag-question form.

Appropriate response: The requested action or information was provided, or else a reason was given why the action/information was not given.

Measures. For each subject, the quantity of speech was computed as the number of utterances produced. In addition, the following proportional scores were computed: all requests divided by all utterances; appropriate responses divided by all requests produced; revisions of requests divided by non-responses to requests; direct forms of requests divided by all requests; on-task requests divided by all requests; sincere requests divided by all requests.

Results and Discussion

The data base included 11,915 utterances, of which 2,650 (22%) were requests, with 878 requests for action and 1,772 requests for information. Table 1 shows the mean percentiles for characteristics of requests, responses, and reading achievement.

Table 1

Percentiles for Characteristics for Characteristics of Requests and Achievement by Ability Group

Characteristic	Group						
	A	B	C	D	E	F	G
Designate	46	35	37	76	76	38	46
On-task	36	75	50	37	35	50	56
Sincere	30	62	63	43	49	48	45
Revision	43	63	29	38	84	31	46
Direct	65	32	36	55	48	55	76
Appropriate response	66	66	37	61	42	36	41
Reading achievement	82	67	47	43	41	37	29

Differences in Reading Achievement and Language Knowledge

One standardized score for language knowledge was calculated, based on the scores from the two separate tests in the fall and spring. A Kruskall-Wallis analysis for overall language knowledge revealed that there were no group differences.

A Kruskall-Wallis analysis for overall reading achievement revealed that the groups differed ($\chi^2(6) = 12.90$, $p \leq .05$). Further analyses revealed that fall reading achievement was positively related to spring reading achievement (tau= .53, $p \leq .01$). The groups differed to a greater extent in reading achievement in the spring ($\chi^2(6) = 14.93$, $p \leq .01$), than in the fall ($\chi^2(6) = 5.90$, $p \leq .42$).

Characteristics of Requests and Appropriate Responses

The data for the characteristics of requests and appropriate responses are displayed in Figure 1. These displays are an adaptation of Tukey's (1977) "box and whisker" diagram, which has the advantage of displaying all the data and variability. The following information is given for each variable: the lowest value in the sample (black circle), the 10th percentile (dash bar), the 25th percentile (solid bar), the median (solid bar), the 75th percentile (solid bar), the 90th percentile (dash bar), and the highest value in the sample (black circle). The "box" represents the interquartile range, or middle half of the sample.

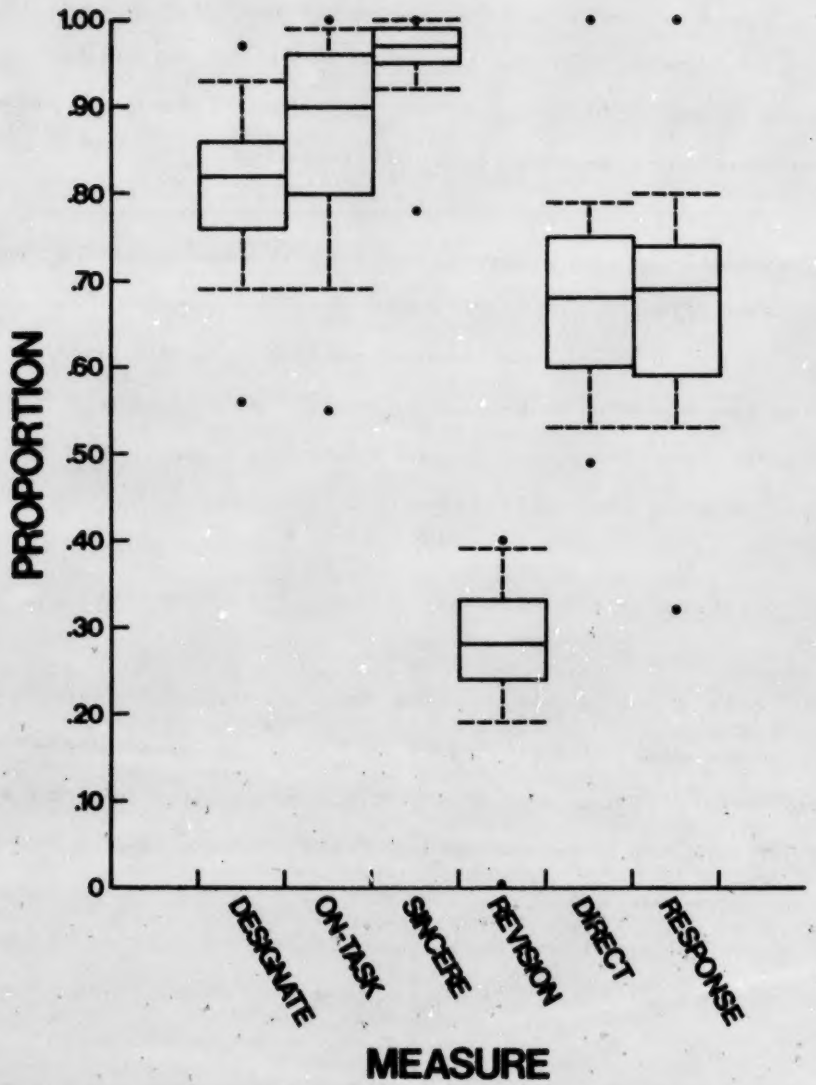

Figure 1. Characteristics of Requests and Responses.

There seem to be two kinds of variables represented in Figure 1. One group of variables, represented on the extreme left-hand side of the figure, shows high medians and small to moderate interquartile ranges (0.04- 0.16) indicating low spread and ceiling effects. This group of variables, which includes designated-listener, on-task, and sincere requests, suggests a common competence among the children on these aspects of their communication. The second group of variables, which can be seen on the extreme right-hand side of the figure, shows medians in the middle range with moderate interquartile ranges (0.10-0.15) indicating medium spread. On this group of variables, which includes direct-forms, revisions, and appropriate responses to requests, these measures show enough variation among the children to suggest genuine individual differences.

Overall, the data show third graders were effective in obtaining appropriate responses to their requests for action and information more than two-thirds of the time. The typical child usually made requests that were direct, sincere, on-task, and to a designated-listener. When the listener did not respond appropriately, the typical child tried again only one third of the time. The data suggest a pattern of language use for requests which places a premium upon explicitness, directness, and assertiveness. These findings are consistent with those of Ervin-Tripp (1977); Read and Cherry (1978), and Montes (1978). However, the findings contrast with the pattern of language use associated with adults, who express cooperation and politeness through use of indirect forms, and show a tendency to soften and elaborate requests when initial noncompliance occurs (Ervin-Tripp, 1976; Lakoff, 1973).

The Stability of Differences

With some exceptions, the patterns concerning both requests for information and requests for action were stable from fall to spring. Wilcoxon Matched Pairs Signed Ranks Tests were used to examine the significance of differences between fall and spring, and between the two types of requests. There was only one significant difference between seasons. Designated requests ($z = -2.48$, $p \leq .01$) were used more often by the children in the spring than in the fall.

There were several differences between the two types of requests. Requests for action were more likely to be sincere ($z = -2.30$, $p \leq .02$) and to be designated to a particular listener ($z = -3.44$, $p \leq .01$). Requests for information were more likely to occur (rate of requests, $z = 4.87$, $p \leq .01$), to be revised when initially unsuccessful ($z = -3.43$, $p \leq .01$), to be direct in form ($z = -4.57$, $p \leq .01$), and to receive an appropriate response ($z = 4.88$, $p \leq .01$).

This pattern of differential language usage for requests for information and action reflects increasing sophistication in language usage. In contrast, adults' requests for information, typically, do not take a direct form, which is considered to be rude and impolite. For the children in this study, the probability of a listener understanding may be increased by use of the characteristics of designated listener and by reference to the topic at hand. On the other hand, the probability of listener understanding and compliance seems to be increased by the use of sincere requests of a direct form.

Individual Differences

Overall, indivdual differences among children are shown in Figure 1. In this section, we consider selected examples of children who are effective and ineffective speakers, and their scores on characteristics of requests are shown in Figure 2.

Child K is a good example of an effective and appropriate speaker. Karen designates her listeners, uses direct forms, and revises her unsuccessful requests at above average levels. Her performance on the sincerity and on-task variables suggest that she speaks appropriately. Several factors may contribute to her high level of success in obtaining appropriate responses. She frequently obtains her listeners' attention in a direct manner by using names or tapping, rather than just looking at them. Her requests are specific; for example, she may ask her listeners to confirm her choice or to select one of two alternatives. She also tends to revise rather than repeat her requests. Although Karen frequently re-rinitiates when her requests are unsuccessful initially, she appears able to determine when a reinitiation will be unsuccessful and does not persist. Furthermore, this speaker makes relatively few requests; they are usually successful.

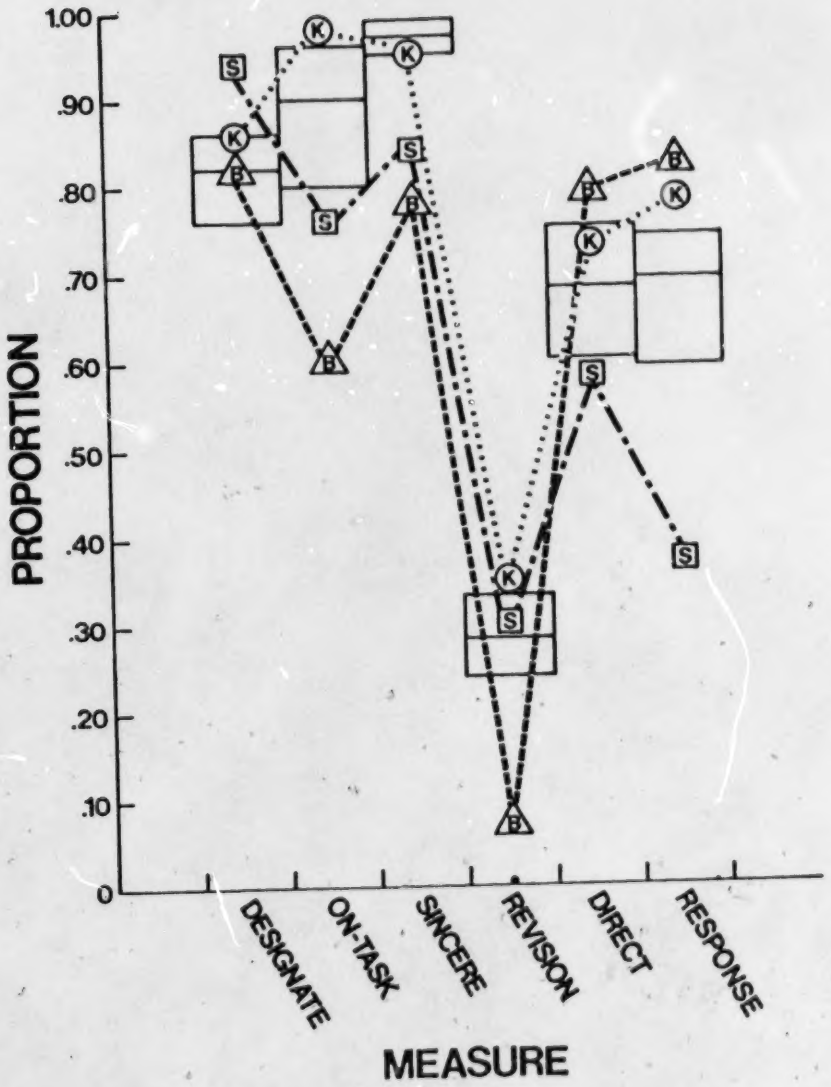

Figure 2. Individual Differences in Requests and Responses.

In the following exchange Karen's requests to Diane demonstrate some of these behaviors.

Karen: Diane (touches) Does this say 'fazed, faced'?

Diane: Faced. I'm done with my first page.

Karen: None of them rhymes with blazed.

Diane: Fazed, faced, that's what I put down.

Karen: Diane (taps) I don't get this.

Diane: It's a siren.

Karen: I know but (reads) siren, lemon, siren, liken.

Diane: (circles correct answer on Karen's page)

Karen: (tapping) I don't get this.

Diane: (ignores)

Karen: Hey (looks at Diane) this could be 'hermit', couldn't it?

Diane: Yeah.

Karen: (smiles) Hermant.

Scott, shown as S in Figure 2, is an example of an unsuccessful speaker. His success in obtaining appropriate responses is below the tenth percentile. He tends to make fewer direct and sincere requests than his peers and is off-task more often than other children. Not only are Scott's direct requests less frequent than those of his peers, they are more aggravated, that is, stronger (Labov & Fanshel, 1977). Scott initiates or is drawn into arguments readily. These result in numerous unsuccessful requests. In the following example Ben and Scott have been arguing over the possession of a pencil. Ben is taunting Scott in order to continue the argument.

Ben: Tell me more about it Scott. Big Scott boy.

Scott: Stop that or you're gonna get beat up outside at recess.

Ben: Gonna make me?

Scott: Yeah, outside for recess.

Ben: Big Scott boy.

Scott: You two be out there.

Although Scott's off-task behavior may contribute to his lack of success the content of this talk may be a more significant factor. He brings up socially "taboo" topics which appear to offend his classmates. The following example illustrates this point.

Ben: Scott, I can't stand that talk so please be quiet.

Scott: (unintelligible)

Ben: God, shut up.

Scott's insincerity may also contribute to his lack of success. In the following example the group has been off-task for several minutes. Scott's attempt to get the group on-task is of questionable sincerity and Donald's response acknowledges this.

Donald: Scott, can't you ever stop laughing and making jokes?

Scott: Now let's all be serious.

Donald: How can you be serious Scott?

Scott: I don't know. It's hard.

Bob, shown as B in Figure 2, is an inappropriate yet effective speaker. He exhibits low scores on sincerity and on-task, but his compliance rate is very high (0.82). He makes many direct requests and designates his listeners (0.82). In addition to specifying his

listeners by name he makes frequent use of attention getters such as "hey," "oh-oh",""see," and "y'know something?" as in the following example.

Bob: Oh-oh, Tim, lookit what's behind you.
Tim: (looks)

Bob's off-task comments may contribute to his high compliance rate in contrast to Scott's. Although the children in the group do sometimes comment on the frequency of Bob's off-task behaviors, they often are intersted in them. One reason is that Bob successfully uses these comments to entertain his peers as the following example illustrates.

Bob: Wanna see my funny hat?
Tim: Okay.
Bob: Da-da (places book on his head)

Bob has learned that he can sometimes control the behavior of his peers by controlling their attention. When the children in his group threaten to report his actions to the teacher he distracts them by making attention-getting statements and requests for information. The children often respond to these requests perhaps because they are already attending to him and because they know the answers. This tactic is successful occasionally successful. In the first example, Bob has taken Tim's notebook. He distracts Tim for a while but is unsuccessful in obtaining an appropriate response from his peer. In the second example, Cindy reprimands Bob for talking about and touching the experimenter's microphone. His distraction attempt is successful.

Tim: Gimme that.

Bob: Watch this. (plays with the notebook)

Tim: Don't! C'mon. I'm telling. I'm telling.

Bob: There. Two and two is four. Ain't I smart?

Tim: I'm telling.

Bob: Two times two is four.

Tim: I'm telling.

Bob: What's two times two?

Tim: It's four you dumb (expletive deleted)

Bob: Two? Two twos?

Tim: I know, it's three, ya big dummy.

Bob: You think two times two is three, hey?

Tim: No, it's three ya dip (expletive deleted)

Bob: Three times two are four. Four times four are eight. (singing)

Tim: Better erase that cause I'm telling the teacher.

Bob: 28 times 28 is 30, is 65, 65 times 65 is 232.

Tim: I'm going to tell (leaves).

Cindy: Bob, I'm telling on you.

Bob: What'd I do?

Cindy: You're talking and you're not supposed to talk about that stuff.

Bob: What stuff? Okay, I'll get working. Ouch, my eyeball.

Cindy: Tell on you anyhow.

Bob: Tell on me, I'll tell on you.

Cindy: What am I doing?

Tim: You're crying.

Cindy: I am not crying.

Bob: Well you were, so there.

(Children resume working)

Many of Bob's utterances suggest that he is an attentive listener. He freqently helps to maintain topics by requesting clarification and elaboration and by adding new information, as can been seen in the following examples.

Tim: Oh-Oh, we're in trouble.
Bob: I know, I know, I know.
Tim: We better say our prayers. You know, my ma, when she saw my report card, she smacked me.
Bob: (giggle) How did she smack you?
Tim: She saw the report card and she went, she went (imitates nagging). And she went (imitates nagging, slap). Ooh!
Bob: You know what? Last year my mother saw my report card, said I went to Unit 3, and she goes (slaps self) and then she goes, I go, What's your big problem - You're in Unit 3, why'nt you stay in Kindergarten?

Lisa: I don't get this.
Bob: What don't you get?

Predicting Appropriate Responses to Requests

An analysis was conducted to address the question: "Do selected characteristics predict whether an appropriate response will be obtained?" This question was addressed by classifying requests in a multidimensional contingency table defined by the following dimensions: response, direct-form, designated-listener, on-task, sincere, revision, and request for action/information. Log linear models were

fit to this table in an effort to find the simplest model that adequately predicted the frequencies which were observed in the table (Bishop, Fienberg, & Holland, 1975).

In the simplest model, it was assumed that the six characteristics of requests were completely independent of each other. This model was rejected, $\chi^2(120) = 378.32$, $p \leq .01$. In a more complex model, it was assumed that appropriate responses depended on the other characteristics but that these other characteristics did not depend on each other. This model was rejected, $\chi^2(114) = 265.59$, $p \leq .01$, but it was a significant improvement over the first model, $\chi^2(6) = 112.73$, $p \leq .01$. In a still more complex model, it was assumed that there were associations between every pair of characteristics but no higher order associations. This model did fit the data, $\chi^2(99) = 94.44$. Moreover, it fit better than the preceding model in which it was assumed that only appropriate response was associated with other characteristics, $\chi^2(15) = 171.15$, $p \leq .01$. Finally, this model fit better than one in which it was assumed that all pairs of characteristics were associated except pairs involving appropriate responses, $\chi^2(6) = 97.93$, $p \leq .01$. The major conclusions, therefore, are (a) that characteristics of requests are correlated, and (b) that whether a request received an appropriate response depended upon other characteristics of the request. This latter effect received support from two sources; the goodness of fit improved when the effect was added to the model and worsened when it was removed.

Because the observations are dependent, the significance levels which were obtained are not completely trustworthy. One solution to this problem is to select a statistic which measures an effect of interest and to jackknife that statistic by groups (Mosteller & Tukey,

1977). The log linear effect of each characteristic upon appropriate responses was computed and jackknifed by reading groups. The results suggested that all characteristics predicted appropriate responses. Requests were more likely to obtain appropriate responses if they were for information than action, t (6) = 15.17, $p < .01$; if they were of a direct form, t (6) = 4.23, $p < .01$, and if they were revised (after initial attempt), t (6) = 4.08, $p < .01$. These results confirm the validity of the model presented in this report.

The Relationship between Reading Achievement and Requests

Analyses were conducted to examine whether students' requests and appropriate responses differed in ability groups which may affect reading achievement. The relationship between characteristics of requests and reading achievement was examined. Appropriate responses to requests are predicted by characteristics of requests (action/information, direct form, designated-listener, revision, on-task, sincere). Since the content of these requests usually refers directly to some aspect of the reading assignment, selected aspects of requests were expected to show relationships to reading achievement.

Rank-order correlations were computed between these variables and a standardized score for overall reading achievement. Rank-order correlations were used since they are as powerful as Pearson correlations, but are less likely to be biased by extreme cases, which occurred occasionally in these data. It was expected that the measures of appropriate response, direct form, and revision were likely to show a relationship with reading achievement, but the other measures were not likely to yield high correlations for purely statistical reasons of lack of variability in the measures showing

ceiling effects.

The correlation between direct forms and reading achievement was 0.23 ($p < .03$). One interpretation of this finding is that children who are direct in expressing their wants are securing appropriate responses to their on-task requests, which may contribute to their knowledge of reading. Another possible interpretation of the data is that the better readers are more sophisticated in their use of language and aware of multiple ways to get appropriate responses.

Conclusion

The results reported here show that the quality of interaction in peer-directed reading groups of different ability levels varies through the children's use of language. Students in low ability groups were less likely than those in high ability groups to have their requests responded to appropiately by other students. This fact may have made it more difficult for those students to complete their assignments, since most of the requests made by students referred to either academic assignments or to materials and/or procedures about the assignments. These students in the low groups seemed to suffer doubly: not only were they less likely in comparison with the high ability students to receive information regarding the academic content of the assignment, but they were also less likely to obtain apporpriate responses regarding the procedures and materials, the management of the reading group itself. Perhaps these differences in the quality of interaction account, at least in part, for the results that showed that differences in reading achievement were maintained throughout the year.

These findings corroborate and extend those of Webb (1980) and Eder (1982) that suggest that the processes of interaction differ in instructional groups of homogeneous ability. The results of the study reported here extend our understanding to the possible causes of the maintenance of differences in achievement in instructional groups throughout the year that are not actively directed by the teacher. Initial differences among students' reading achievement and effective use of language may be maintained by differences in communicative processes within groups. Thus, the positive correlation between requests and reading achievement may reflect the true association between them. This association may be either a direct or an indirect causal link. In the direct case, students who obtain appropriate responses to their requests may learn reading skills as a consequence. In the indirect case, some other intellectual competence(s) promote both the production of requests and responses and reading skills. Further research should be directed to exploring this relationship and to the examination of other interactional processes that may serve to maintain differences in achievement of participants in peer, instructional groups.

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